REMARKS/ARGUMENTS

This case has bee carefully reviewed and analyzed in view of the Official Action dated 22 January 2004. Responsive to the objections and rejections made in the Official Action, Claims 4, 6-12, 17, 20, 24, 26, and 28-30 have been amended, Claims 1-3 and 14-15 have been cancelled and New Claim 31 added.

In the Official Action, Claims 7-9, 17-18, 20-23, 25 and 28-30 were objected to as being dependent upon a rejected base claim, but indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 17 was also objected to due to an informality therein. Accordingly, Claims 7, 8, 17, 20 and 28-30 have been amended to place those Claims in independent form, including any limitations of the respective base claim and any intervening claims. Thus, those Claims, and the Claims dependent thereon should now be allowable.

In the Official Action, the Examiner rejected Claims 1-3, 12, 13, 16 and 26-27 under 35 U.S.C. § 103, as being unpatentable over Nowak, U.S. Patent 6,025,110, in view of Ellis, U.S. Patent 5,773,188. Claim 4, the limitations thereof now being combined with the limitations of Claim 1, was rejected under 35 U.S.C. § 103, as being unpatentable over Nowak in view of Ellis and further in view of Yagi, et al., U.S. Patent 5,658,698.

Before discussing the prior art relied upon by the Examiner, it is believed beneficial to first briefly review the structure of the invention of the subject Patent

Application, as now defined in Claim 4. The invention of the subject Patent Application is directed to a material delivery system for miniature structures fabrication. The system includes a substrate and a material carrier element having a deposition layer disposed thereon and displaceable with respect to the substrate. The deposition layer contains at least one depositable material. The material carrier element is maintained in predetermined space relationship with respect to the substrate. The system includes an energy beam directed towards the material carrier element and a control means operatively coupled to the energy beam and the material carrier element for changing relative position between the material carrier element and the energy beam. By that arrangement, respective areas of the deposition layer are exposed to the energy beam in a patterned fashion. The at least one depositable material is ablated from the respective areas of the deposition layer upon exposure to the energy beam and transferred to the substrate for depositing thereon at regions thereof corresponding to the respective areas of the deposition layer on the material carrier element.

It is respectfully submitted that the Examiner admits that the combination of Nowak and Ellis fail to disclose the material carrier element being maintained in predetermined space relationship to the substrate. The Examiner then refers to the Yagi, et al. reference as maintaining a carrier element in predetermined space relationship by virtue of an air space between the beam member 2 and the substrate 1. The Examiner then concludes that it would have been obvious to one

of ordinary skill in the art at the time the invention was made to modify the teachings of Nowak with the teachings of Yagi, et al.

It is respectfully submitted that the Yagi, et al. reference is not properly combinable with the Nowak and Ellis references. The Nowak and Ellis references are directed to ablation-transfer techniques used in photographic and circuit board manufacture technologies. Whereas, the Yagi, et al. reference is directed to a semiconductor processing technique. It is not reasonable to believe that one skilled in the art of ablation transfer would look to methods of semiconductor manufacture for methods of modifying the ablation transfer process. Additionally, the Yagi, et al. reference, while directed to a method of forming microstructures, does not utilize an ablation transfer technique, but produces 3-dimensional structures utilizing conventional semiconductor manufacturing methods, i.e. forming resist layers, etching, etc. Thus, there is no motivation provided by the reference for its combination with Nowak and Ellis.

Arguendo, even if it were proper to combine Yagi, et al. with Nowak and Ellis, such combination fails to make obvious the invention of the subject Patent Application. The Yagi, et al. reference discloses a method wherein a sacrificial layer 7 is formed on the substrate and the beam 2 formed thereon. Subsequently, the sacrificial layer is removed, resulting in the air space 4 being disposed between the beam member 2 and the substrate. While the air space 4 defines a predetermined distance between the substrate and beam, the beam 2 is not a

material carrier element, and no energy is applied thereto to transfer any portion of a deposition layer from the beam to the substrate. Further, the process disclosed by Yagi, et al. is suitable only for positioning a member which is affixed to the substrate, and not for a material carrier element having a deposition layer and disposed thereon and displaceable with respect to the substrate. In the invention of the subject Patent Application, the spaced relationship is maintained when the material carrier element is displaced, which is neither disclosed nor suggested by Yagi, et al. In Yagi, et al. the beam 2 twists when a potential is applied to the electrodes 14, 16, thereby changing the spacing between the beam and substrate.

Thus, the Yagi, et al. reference provides no teaching of how one skilled in the art would utilize a sacrificial layer applied to a substrate in order to maintain a movable material carrier element in spaced relationship with respect to the substrate, so that depositable material can be transferred from a material carrier element to the substrate. In fact, any such sacrificial layer would interfere with the transfer process of Nowak or Ellis, making the combination system unworkable. Therefore, the combination of Nowak, Ellis and Yagi, et al. cannot make obvious the invention of the subject Patent Application, as now claimed.

With respect to the tape guide unit, now the subject matter of new Claim 31 and included in Claim 26, the Examiner stated, with respect to Claim 26, that the Nowak reference disclosed a tape guide unit disposed between the take-up reel and the supply reel and maintaining the tape material carrier element in predetermined

relative disposition with respect to the substrate, as taught by the indexing arrangements.

The tape guide unit of Claim 31 provides support for the material carrier element for maintaining the predetermined spaced relationship between the material carrier element and the substrate. In contradistinction, the indexing assembly 112 associated with the material carrier tape 110 of Nowak simply linearly advances new segments of the material into the scanning area beneath the laser 105, Column 3, Lines 44-48. The indexing assembly 127 displaces the pillar 125 to position the platen 122 vertically and thereby displaces the substrate 120 and possibly maintain a predetermined spacing between the carrier tape and the substrate 120, Column 4, Lines 6-13. Thus, even if the vertical indexing mechanism 127 serves a similar function to that of the tape guide unit, in maintaining a predetermined space relationship between the carrier and the substrate, it does so by maintaining the position of the substrate as opposed to maintaining the position of the material carrier element as is done in the invention of the subject Patent Application. Thus, the reference fails to teach the structure of the invention of the subject Patent Application, as now claimed.

For all of the foregoing reasons, it is now believed that the subject Patent Application has been placed in condition for allowance, and such action is respectfully requested.

Respectfully submitted,

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Dated: 22 April 2004

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Dated: 4/22/2004